

Application Serial N . 09/008,849

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Please cancel claims 44 and 45 without prejudice.

Remarks

Applicant respectfully requests reconsideration of the instant application in view of the above amendments and the following remarks.

Summary of Office Action

Declaration

The oath/declaration is considered to be defective because of the assertion that it fails to contain a statement that all errors which are being corrected in the reissue application up to the time of filing of the oath/declaration arose without deceptive intention on the part of the applicant.

The oath/declaration is also considered to be defective because of failing to identify at least one error which is relied upon to support the reissue application, particularly for failing to specify that the original claims 1-9 were too narrow in scope as an error for each group of claims that are broader in scope than the originally filed claims.

Drawings

The drawings stand objected to because the use of the numerical reference "310" in FIG. 4 is incorrect.

Specification

The specification stands objected to because of an error in the numerical reference associated with "the intermediate image" on page 8, line 16.

Claims

Claims 1-75 are pending in the application.

Claims 1-75 stand rejected as being based upon a defective reissue Declaration under 35 U.S.C §251.

Claims 31-41, 57-60, 63-64, 66-68, 74 and 75 stand rejected under 35 U.S.C. §251 as being an improper capture of claimed subject matter deliberately cancelled in the application for the patent upon which the present reissue is based.

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Claims 44 and 45 stand rejected under 35 U.S.C. §112, first paragraph for not reasonably providing enablement of a curved surface as a re-imaging means.

Claim 65 stands rejected under 35 U.S.C. §112, first paragraph as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention.

Claims 3, 6, 42-43, and 53-56 stand rejected under 35 U.S.C. §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention.

Claim 31 stands rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 5,187,597 to Kato et al.

Claim 31 stands rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 4,669,810 to Wood in view of Kato et al.

Claim 31 stands rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,477,385 to Freeman in view of Kato et al.

Claims 32-45 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Kato et al. with or without U.S. Patent No. 3,915,548 to Opitek et al.

Claims 32-45 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Wood in view of Kato et al. with or without Opitek et al.

Claims 1-2, 7, 10-12, 15-16, 29 and 30 stands rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 4,480,169 to Macken.

Claims 3-5, 8-9, 17-28, 31-48, 51-61 and 64 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Macken in view of Kato et al.

Claims 1-3, 5, 9-12, 14-20, 25-31, 47-49, 52-55 and 56 stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 5-8, 10-12 and 17 of U.S. Patent No. 5,673,146.

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R* *ponses to Office Action**Declaration**

Applicant respectfully submits -- notwithstanding the Examiner's objection -- that the original Declaration contained a statement that all errors which are being corrected in the reissue application up to the time of filing of the oath/declaration arose without deceptive intention on the part of the applicant.

Applicant submits herewith a Declaration in compliance with 37 C.F.R. §1.175, containing an amended statement under M.P.E.P. §1414 identifying at least one error which is relied upon to support the reissue application, particularly stating that the original claims 1-9 were too narrow in scope as an error. Applicant respectfully submits that under 37 C.F.R. §1.175 is not obligated to specify more than one error.

Specification

The error in specification noted by the Examiner has been corrected.

Furthermore, the specification has been amended on page 7, line 66 and page 8, lines 1, 4, 8 and 19 to replace "image source 310" with --image source 310'--, so as to conform with FIG. 4 of the drawings.

Drawings

The objections to the drawings are now believed to be moot in view of the above-described amendments to the specification.

Claims

Claims 3, 6 and 53 have been amended to provide for proper antecedent basis.

Claim 31 has been amended as follows, with additions underlined, as supported by the specification on page 2, lines 18-31 and page 7, lines 35-55 and by Figs. 1-3 of the drawings:

31. An optical system, comprising:

- a. an imaging means for forming an intermediate image, wherein said imaging means produces at least one first aberration in said intermediate image;
- b. a curved surface proximate to said intermediate image comprising a light redistributing means for expanding a cone of light incident on said surface

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into a larger cone of exodus, whereby said curved surface reverses at least one said first aberration; and

- c. a re-imaging means for re-imaging said intermediate image, wherein said re-imaging means intercepts a substantial portion of light from said curved surface, wherein said re-imaging means produces at least one second aberration similar to said at least one first aberration, thereby canceling or reducing said at least one first aberration reversed by said curved surface.

Claim 32 has been amended as follows, with additions underlined, as supported by the specification on page 1, lines 58-65; page 7, lines 22-27, lines 49-55 and lines 61-65; and page 8 line 65 through page 9, line 5; and by FIG. 4 of the drawings:

32. An optical system, comprising:

- a. a modulated scanning beam of light for forming an intermediate image;
- b. a light redistributing means positioned proximate to said intermediate image for expanding a cone of light incident on said light redistributing means into a larger cone of exodus; and
- c. a re-imaging means for re-imaging said intermediate image, wherein said re-imaging means forms an exit pupil.

Claims 42 and 43 have been amended to improve clarity.

Claims 44 and 45 have been cancelled without prejudice.

Claim 47 has been amended as follows, with additions underlined, as supported by the specification on page 2, lines 18-43; page 3, lines 32-57; page 5, lines 57-64; and page 8, line 65 through page 9, line 15:

47. An optical system, comprising:

- a. an imaging means for forming an intermediate image, wherein said imaging means produces at least one first aberration in said intermediate image;
- b. a means for reversing at least one said first aberration in said intermediate image, wherein said means for reversing at least one said first aberration comprises a convergent reflective medium; and
- c. a re-imaging means for re-imaging said intermediate image reflected by said convergent reflective medium, wherein said re-imaging means produces at least one second aberration similar to said at least one first aberration, thereby canceling or reducing said at least one first aberration reversed by said reversing means in said re-imaged intermediate image.

Support for the correction of antecedent basis for "said means for reversing at least one said first aberration" is implicit in the original language of the claim.

Claims 54-56 have been amended to depend upon claim 53 instead of upon claim 47.

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Claim Rejections Under 35 U.S.C. §251

Claims **31-41, 57-60, 63-64, 66-68, 74 and 75** stand rejected under 35 U.S.C. §251 as being an improper capture of claimed subject matter deliberately cancelled in the application for the patent upon which the present reissue is based.

Claim **31** has been amended to incorporate the following combination of limitations that were not present in claim **8/1** of the original application: a) said imaging means produces at least one first aberration in said intermediate image, b) said curved surface reverses at least one said first aberration, and c) said re-imaging means produces at least one second aberration similar to said at least one first aberration, thereby canceling or reducing said at least one first aberration reversed by said curved surface. Applicant respectfully submits that claim **31** as amended is of different scope than claim **8/1** of the original application, and accordingly does not improperly capture claimed subject matter that had been deliberately canceled in the application for the patent upon which the present reissue is based. Applicant respectfully requests reconsideration and withdrawal of the rejection of claim **31** under 35 U.S.C. §251.

Applicant respectfully traverses the rejection of claim **32**, because claim **32** is of different scope than either claims **1, 7/1, or 8/1** of the original application. Claims **1** and **8/1** of the original application do not incorporate the limitation of claim **32** of a modulated scanning beam of light for forming an intermediate image, so claim **32** is relatively narrower in scope than claims **1** and **8/1** of the original application at least with respect to this limitation. Claims **1** and **7/1** of the original application do not incorporate the limitation of claim **32** of a light redistributing means positioned proximate to said intermediate image for expanding a cone of light incident on said light redistributing means into a larger cone of exodus, so claim **32** is relatively narrower in scope than claims **1** and **7/1** of the original application at least with respect to this limitation. The scope of claim **32** is narrower in at least one respect with respect to any one claim of the original application, and accordingly claim **32** does not improperly recapture matter that had been canceled in the original application. Applicant respectfully submits that it is not proper to compare the scope of a claim in the reissue application with a hypothetical scope of a combination of claims of the original application, but instead, that claims must be compared one-to-one. Applicant respectfully requests reconsideration and withdrawal of the rejection of claim **32** under 35 U.S.C. §251.

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Claims 34/32, 36/32, 38/32 and 40/32 each provide further limitation to claim 32, and accordingly are also different in scope from either claims 1, 7/1, or 8/1 of the original application at least for the same reasons as for claim 32.

Applicant respectfully traverses the rejection of claim 33, because claim 33 is of different scope than either claims 1, 7/1, or 8/1 of the original application. Claims 1 and 8/1 of the original application do not incorporate the limitation of claim 33 of a modulated scanning beam of light for forming an intermediate image, so claim 33 is relatively narrower in scope than claims 1 and 8/1 of the original application at least with respect to this limitation. Claims 1 and 7/1 of the original application do not incorporate the limitation of claim 33 of a light redistributing means positioned proximate to said intermediate image for expanding said exit pupil, so claim 33 is relatively narrower in scope than claims 1 and 7/1 of the original application at least with respect to this limitation. The scope of claim 33 is narrower in at least one respect with respect to any one claim of the original application, and accordingly claim 33 does not improperly recapture matter that had been canceled in the original application. Applicant respectfully submits that it is not proper to compare the scope of a claim in the reissue application with a hypothetical scope of a combination of claims of the original application, but instead, that claims must be compared one-to-one. Applicant respectfully requests reconsideration and withdrawal of the rejection of claim 33 under 35 U.S.C. §251.

Claims 35/33, 37/33, 39/33, 41/33 each provide further limitation to claim 33, and accordingly are also different in scope from either claims 1, 7/1, or 8/1 of the original application at least for the same reasons as for claim 33.

Applicant respectfully traverses the rejection of claim 57, because claim 57 is of different scope from claim 7/1 of the original application. Claim 7/1 of the original application does not incorporate the limitation of claim 57 of forming an intermediate image on a light redistributing screen with a scanning modulated beam of light, wherein said light redistributing screen redistributes light from said beam of light of said intermediate image. More particularly, claim 7/1 of the original application does not incorporate a light redistributing screen, which is of different and at least partially narrower scope than a convergent reflective surface of claim 7/1 of the original application. For example, a convergent reflective surface reads on a concave specular reflector whereas a light redistributing screen does not. Accordingly, claim 57 is relatively narrower in scope than

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claim 7/1 of the original application at least with respect to this limitation, and claim 57 does not improperly recapture matter that had been canceled in the original application. Applicant respectfully requests reconsideration and withdrawal of the rejection of claim 57 under 35 U.S.C. §251.

Claims 58/57, 59/58/57, 60/57, 63/57, 64/57 each provide further limitation to claim 32, and accordingly are also different in scope from either claim 7/1 of the original application at least for the same reasons as for claim 57.

Applicant respectfully traverses the rejection of claim 66, because claim 66 is of different scope from claim 7/1 of the original application. Claim 7/1 of the original application does not incorporate the limitation of claim 66 of a projection surface comprising a light redistributing means, wherein an intensity of said beam of light is modulated to form an intermediate image on said projection surface. More particularly, claim 7/1 of the original application does not incorporate a light redistributing screen, which is of different and at least partially narrower scope than a convergent reflective surface of claim 7/1 of the original application. For example, a convergent reflective surface reads on a concave specular reflector whereas a light redistributing screen does not. Accordingly, claim 66 is relatively narrower in scope than claim 7/1 of the original application at least with respect to this limitation, and claim 66 does not improperly recapture matter that had been canceled in the original application. Applicant respectfully requests reconsideration and withdrawal of the rejection of claim 66 under 35 U.S.C. §251.

Claims 67/66, 68/66, 74/66, 75/74/66 each provide further limitation to claim 66, and accordingly are also different in scope from either claim 7/1 of the original application at least for the same reasons as for claim 66.

Claim Rejections Under 35 U.S.C. §112, 1st ¶

Claims 44 and 45 stand rejected under 35 U.S.C. §112, first paragraph for not reasonably providing enablement of a curved surface as a re-imaging means. Claims 44 and 45 have been cancelled without prejudice.

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Claim 65 stands rejected under 35 U.S.C. §112, first paragraph as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention. Applicant respectfully traverses this rejection. FIG. 4 illustrates a system that inherently carries out the operation of converging the light redistributed from the light redistributing screen (312) prior to re-imaging the light, wherein the redistribution of light is illustrated by the plural light rays redistributed by the light redistributing screen (312) from two different locations thereon, propagating towards the re-imaging lens (316) that re-images the light so as to form a virtual image (318). The concave curvature of the projection screen (312) causes the light redistributed from various points thereon to converge upon the re-imaging lens (316). Claim 65 is further supported by the disclosure on page 7, lines 35-55 that describes a concave projection screen as a replacement for a convergent mirror, which inherently acts to converge light reflected therefrom. Applicant respectfully requests reconsideration and withdrawal of this rejection.

Claim Rejections Under 35 U.S.C. §112, 2nd ¶

Claims 3, 6, 42-43, and 53-56 stand rejected under 35 U.S.C. §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention.

Claim 3 has been amended to replace, on line 2, "the mirror surface" with --a mirror surface of said concave mirror-- so as to provide for proper antecedent basis for the term "mirror surface". Support for this amendment is implicit in the original language of the claim.

Claim 6 has been amended to replace, on line 2, "said reflective surface" with --a reflective surface of said reflective medium-- so as to provide for proper antecedent basis for the term "reflective surface". Support for this amendment is implicit in the original language of the claim.

Claims 42 and 43 have been amended to improve clarity by replacing "at least one third aberration" with --at least one aberration--. The term "third aberration" had been used to distinguish from the terms "first aberration" and "second aberration" used elsewhere in the claims. Accordingly, the phrase "at least one" was intending to apply to the term "third aberration". Support for this amendment is implicit in the original language of these claims.

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Claim 53 has been amended to replace, on line 4, "the sign" with --a sign-- so as to provide for proper antecedent basis for the term "sign". Support for this amendment is implicit in the original language of the claim.

Claims 54-56 have been amended to depend upon claim 53 instead of upon claim 47. Support for this amendment is implicit in the original language of claims 53-56.

Claim Rejections Under 35 U.S.C. §102(e) As Being Anticipated by Kato et al.

Claim 31 stands rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 5,187,597 to Kato et al. Claim 31 has been amended to incorporate the following limitations, the combination of which are neither disclosed or suggested by Kato et al.: a) said imaging means produces at least one first aberration in said intermediate image, b) said curved surface reverses at least one said first aberration, and c) said re-imaging means produces at least one second aberration similar to said at least one first aberration, thereby canceling or reducing said at least one first aberration reversed by said curved surface. More particularly, Kato et al. does not disclose or suggest that said re-imaging means produces at least one second aberration similar to said at least one first aberration, thereby canceling or reducing said at least one first aberration reversed by said curved surface. Because Kato et al. neither discloses nor suggests all of the limitations of claim 31 as amended, then claim 31 is novel with respect to Kato et al. and therefore in a condition for allowance. Applicant respectfully requests reconsideration and allowance of amended claim 31.

Claim Rejections Under 35 U.S.C. §103(a) over Wood in view of Kato et al.

Claim 31 stands rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 4,669,810 to Wood in view of Kato et al.

Claim 31 has been amended to incorporate the following limitations, the combination of which are neither disclosed or suggested by either Wood or Kato et al.: a) said imaging means produces at least one first aberration in said intermediate image, b) said curved surface reverses at least one said first aberration, and c) said re-imaging means produces at least one second aberration similar to said at least one first aberration, thereby canceling or reducing said at least one first aberration reversed by said curved surface. More particularly, neither Wood nor Kato et al. disclose or suggest that the re-imaging means produces at least one second aberration similar to said at least one first aberration, thereby canceling or reducing said at least one first aberration reversed by said curved surface.

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Regarding Wood, the Examiner's association of the holographic element (28) of Wood with the curved surface of claim 31 appears to be contrary to the teachings of Wood from col. 3, line 60 through col. 4, line 27, and particularly col. 4, lines 11-18 as follows:

the relay optics 26 desirably forms a preaberrated image at 54, i.e. one that is first aberrated in a manner such that aberrations in an opposite sense by combiner 12 produces a nonaberrated presentation for view by the pilot. In accordance with the present invention, second holographic optical element 28 cooperates with relay optics 26 to bring this purpose about.

As suggested by Wood, the combination of the relay optics (26) with the holographic optical element (28) would be considered part of an imaging means for forming an intermediate image, which forms a preaberrated image aberrated in a manner such that aberrations in an opposite sense by combiner 12 produces a nonaberrated presentation for view by the pilot. Wood does not disclose or suggest that the holographic optical element (28) reverses at least one aberration from the cathode-ray-tube 20 or relay optics (26). Furthermore, Wood on col. 3, lines 64-66 teaches that the image surface 54 is located one focal length away from the combiner, which teaches away from the curved surface being proximate to the intermediate image.

It is improper to suggest that the combination of Wood and Kato et al. teaches or suggests a limitation of claim 31 that is neither taught nor suggested by either of these references individually. Accordingly, Applicant respectfully submits that claim 31 as amended is non-obvious with respect to Wood in view of Kato et al., and respectfully requests reconsideration and allowance of claim 31.

Claim Rejections Under 35 U.S.C. §103(a) over Freeman in view of Kato et al.

Claim 31 stands rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,477,385 to Freeman in view of Kato et al.

Applicant respectfully traverses the rejection of claim 31 over Freeman because the elements of Freeman upon which the Examiner relies for this rejection are disclosed in earlier filed U.S. Patent No. 5,406,415 to Kelly, upon which the instant application claims priority. Accordingly, Applicant respectfully submits that it is improper to use Freeman as a reference against the instant application. Moreover, having already discussed how claim 31 is distinguished from Kato et al., Applicant respectfully submits that claim 31 is non-obvious in view of Kato et al., and respectfully requests reconsideration and allowance of claim 31.

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Claim Rejections Under 35 U.S.C. §103(a) over Kato et al. with or without Opitek et al.

Claims 32-45 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Kato et al. with or without U.S. Patent No. 3,915,548 to Opitek et al.

Claim 32 has been amended to incorporate the limitation that the re-imaging means forms an exit pupil. Neither Kato et al. nor Opitek et al. disclose or suggest a re-imaging means that forms an exit pupil, in combination with a light redistributing means positioned proximate to said intermediate image for expanding a cone of light incident on said light redistributing means into a larger cone of exodus. Because Kato et al., with or without Opitek et al., neither discloses nor suggests all of the limitations of claim 32 as amended, then claim 32 is non-obvious with respect to Kato et al., with or without Opitek et al., and therefore in a condition for allowance. Applicant respectfully requests reconsideration and allowance of amended claim 32.

Applicant respectfully traverses the rejection of claim 33 because neither Kato et al. nor Opitek et al. disclose or suggest a means for re-imaging an intermediate image wherein the means for re-imaging an intermediate image forms an exit pupil, in combination with a light redistributing means positioned proximate to said intermediate image for expanding said exit pupil. Because Kato et al., with or without Opitek et al., neither discloses nor suggests all of the limitations of claim 33, then claim 33 is non-obvious with respect to Kato et al., with or without Opitek et al., and therefore in a condition for allowance. Applicant respectfully requests reconsideration and allowance of amended claim 33.

Claims 34/32, 35/33, 36/32, 37/33, 38/32, 39/33, 40/32, 41/33, 42/32 and 43/33 each depend upon either claims 32 or 33. Accordingly, Applicant respectfully submits that if the above argument regarding the non-obviousness of claims 32 and 33 is accepted, then claims 34-43 are also non-obvious with respect to Kato et al., with or without Opitek et al., because the addition of further limitations to an already novel and non-obvious claim does not negate non-obviousness. Applicant requests reconsideration and allowance of claims 34-43 in view of the above argument and the amendments submitted herewith.

Claims 44 and 45 have been cancelled.

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Claim Rejections Under 35 U.S.C. §103(a) over Wood in view of Kato et al. with or without Opitek et al.

Claims 32-45 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Wood in view of Kato et al. with or without Opitek et al.

Claim 32 has been amended to incorporate the limitation that the re-imaging means forms an exit pupil. Neither Wood, Kato et al. nor Opitek et al. disclose or suggest a re-imaging means that forms an exit pupil, in combination with a light redistributing means positioned proximate to said intermediate image for expanding a cone of light incident on said light redistributing means into a larger cone of exodus. Because Wood in view of Kato et al., with or without Opitek et al., neither discloses nor suggests all of the limitations of claim 32 as amended, then claim 32 is non-obvious with respect to Wood in view of Kato et al., with or without Opitek et al., and therefore in a condition for allowance. Applicant respectfully requests reconsideration and allowance of amended claim 32.

Applicant respectfully traverses the rejection of claim 33 because neither Wood, Kato et al. nor Opitek et al. disclose or suggest a means for re-imaging an intermediate image wherein the means for re-imaging an intermediate image forms an exit pupil, in combination with a light redistributing means positioned proximate to said intermediate image for expanding said exit pupil. Because Wood in view of Kato et al., with or without Opitek et al., neither discloses nor suggests all of the limitations of claim 33, then claim 33 is non-obvious with respect to Wood in view of Kato et al., with or without Opitek et al., and therefore in a condition for allowance. Applicant respectfully requests reconsideration and allowance of amended claim 33.

Claims 34/32, 35/33, 36/32, 37/33, 38/32, 39/33, 40/32, 41/33, 42/32 and 43/33 each depend upon either claims 32 or 33. Accordingly, Applicant respectfully submits that if the above argument regarding the non-obviousness of claims 32 and 33 is accepted, then claims 34-43 are also non-obvious with respect to Wood in view of Kato et al., with or without Opitek et al., because the addition of further limitations to an already novel and non-obvious claim does not negate non-obviousness. Applicant requests reconsideration and allowance of claims 34-43 in view of the above argument and the amendments submitted herewith.

Claims 44 and 45 have been cancelled.

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Claim Rejections Under 35 U.S.C. §103(a) over Macken

Claims 1-2, 7, 10-12, 15-16, 29 and 30 stands rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 4,480,169 to Macken.

Applicant respectfully traverses the rejection of claims 1 and 10 because Macken does not disclose or suggest an imaging means producing at least one aberration in an intermediate image; means for reversing at least one aberration in the intermediate image; and a re-imaging means producing an aberration similar to the aberration produced by the imaging means, thereby substantially canceling the aberration reversed by the reversing means in the re-imaged intermediate image. Applicant respectfully traverses the rejection of claim 16 because Macken does not disclose or suggest an imaging means producing at least one aberration in light exiting the imaging means, and a re-imaging means producing an aberration similar to the aberration produced by the imaging means, for substantially canceling the aberration in the light exiting the imaging means. The Examiner's assertion that it would have been obvious to use the same type of lens for each of the focussing lenses for the purpose of canceling the aberrations produced by the first focusing lens is an improper use of hindsight in view of the teachings of the instant invention, particularly in view of the fact that there is no mention by Macken of aberrations in the embodiment referenced by the Examiner. In the embodiment of FIG. 4, Macken teaches that spherical aberration is introduced by mirror (50), but there is no disclosure or suggestion of aberration caused by any other elements of the system, nor any disclosure or suggestion of a reversal of this aberration by any other elements of the system. Because Macken neither discloses nor suggests all of the limitations of either claims 1, 10 or 16, then claims 1, 10, and 16 are non-obvious with respect to Macken, and therefore in a condition for allowance. Applicant respectfully requests reconsideration and allowance of claims 1, 10, and 16.

Claims 2/1, 7/1, 11/10, 12/10, 15/10, 29/10, and 30/16 each depend upon either claims 1, 10 or 16. Accordingly, Applicant respectfully submits that if the above argument regarding the non-obviousness of claims 1, 10, and 16 is accepted, then claims 2, 7, 11, 12, 15, 29 and 30 are also non-obvious with respect to Macken, because the addition of further limitations to an already novel and non-obvious claim does not negate non-obviousness. Applicant requests reconsideration and allowance of claims 2, 7, 11, 12, 15, 29 and 30 in view of the above argument.

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Claim Rejections Under 35 U.S.C. §103(a) over Macken in view of Kato et al

Claims 3-5, 8-9, 17-28, 31-48, 51-61 and 64 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Macken in view of Kato et al.

Applicant respectfully traverses the rejection of claims 31, 47 and 53 because, as discussed above for each of Macken and Kato et al. individually, neither Macken nor Kato et al. disclose or suggest the combination of an imaging means producing at least one aberration in an intermediate image; means for reversing at least one aberration in the intermediate image; and a re-imaging means producing an aberration similar to the aberration produced by the imaging means, thereby canceling or reducing the aberration reversed by the reversing means in the re-imaged intermediate image. Because neither Macken nor Kato et al. disclose nor suggest all of the limitations of either claims 31, 47 or 53, then claims 31, 47 and 53 are non-obvious with respect to Macken and Kato et al., and therefore in a condition for allowance. Applicant respectfully requests reconsideration and allowance of claims 31, 47 and 53.

Applicant respectfully traverses the rejection of claims 32, 33 and 57 because, neither Macken nor Kato et al. disclose or suggest a modulated scanning beam of light for forming an intermediate image. Using the Examiner's characterization of Macken, the intermediate image would comprise a focused spot imaging the laser beam. Notwithstanding that Macken incorporates scanning to move this spot, the image of the spot itself is not formed by scanning. Moreover, the beam of light is not modulated by Macken. Moreover, Kato et al. does not disclose or suggest a light redistributing means in combination with a re-imaging means, wherein the re-imaging means forms an exit pupil. On the contrary, Kato et al. teaches that the light from the light redistributing means is viewed directly by the eye. Because neither Macken nor Kato et al. disclose or suggest all of the limitations of either claims 32, 33 or 57, then claims 32, 33 and 57 are non-obvious with respect to Macken and Kato et al., and therefore in a condition for allowance. Applicant respectfully requests reconsideration and allowance of claims 32, 33 and 57.

Claims 44 and 45 have been cancelled.

Claims 3/2/1, 4/2/1, 5/1, 8/7/1, 9/1, 17/10, 18/16, 19/10, 20/16, 21/17/10, 22/18/16, 23/19/18, 24/20/16, 25/17/10, 26/18/16, 27/19/10, 28/20/16, 34/32, 35/33, 36/32, 37/33, 38/32, 39/33, 40/32, 41/33, 42/32, 43/33, 46/1, 48/47, 51/47, 52/47, 54/53, 55/53, 56/53.

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58/57, 59/58/57, 60/57, 61/59/58/57, 64/57 each depend upon either claims 31, 32, 33, 47, 53 or 57. Accordingly, Applicant respectfully submits that if the above argument regarding the non-obviousness of claims 31, 32, 33, 47, 53 or 57 is accepted, then claims 3-5, 8, 9, 17-28, 34-43, 46, 48, 51, 52, 54-56, 58-61 and 64 are also non-obvious with respect to Macken, because the addition of further limitations to an already novel and non-obvious claim does not negate non-obviousness. Applicant requests reconsideration and allowance of claims 3-5, 8, 9, 17-28, 34-43, 46, 48, 51, 52, 54-56, 58-61 and 64 in view of the above argument.

Furthermore, Applicant respectfully traverses the rejection of claim 4 because neither Macken nor Kato et al. disclose or suggest a convergent reflective medium comprising a concave mirror substrate having a front surface and a back surface provided with a reflective coating, wherein said mirror substrate corrects optical aberrations in said intermediate image produced by said object imaging means, and pre-corrects for optical aberrations produced by said re-imaging means after said intermediate image is reflected by said reflective coating. Because neither Macken nor Kato et al. disclose or suggest all of the limitations of claim 4, then claim 4 is non-obvious with respect to Macken and Kato et al., and therefore in a condition for allowance. Applicant respectfully requests reconsideration and allowance of claim 4.

Furthermore, Applicant respectfully traverses the rejection of claims 9, 21, 22, 23, 24, 46 and 51 for the same reasons given hereinabove for claims 32, 33 and 57, and respectfully requests reconsideration and allowance thereof. Because neither Macken nor Kato et al. disclose or suggest all of the limitations of claims 9, 21, 22, 23, 24, 46 or 51, then claims 9, 21, 22, 23, 24, 46 and 51 are non-obvious with respect to Macken and Kato et al., and therefore in a condition for allowance. Applicant respectfully requests reconsideration and allowance of claims 9, 21, 22, 23, 24, 46 and 51.

Furthermore, Applicant respectfully traverses the rejection of claim 54 because neither Macken nor Kato et al. disclose or suggest forming an intermediate image with an imaging means comprising at least one positive optical element; re-imaging the intermediate image with a re-imaging means comprising at least one positive optical element, and reversing the sign of an aberration in the intermediate image with a convergent reflective element that produces negative aberration contributions that compensate at least one aberration contribution from the positive optical elements of the imaging means and the re-imaging means. Because neither Macken nor Kato et al. disclose or suggest all of the

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limitations of claim 54, then claim 54 is non-obvious with respect to Macken and Kato et al., and therefore in a condition for allowance. Applicant respectfully requests reconsideration and allowance of claim 54.

Furthermore, Applicant respectfully traverses the rejection of claim 64 because neither Macken nor Kato et al. disclose or suggest forming an intermediate image on a light redistributing screen and re-imaging the light redistributed from the light redistributing screen so as to form an image of the intermediate image, wherein the image forms an exit pupil viewable by an eye. On the contrary, Kato et al. teaches that the light from the light redistributing means is viewed directly by the eye without a means for forming an exit pupil therebetween. Because neither Macken nor Kato et al. disclose or suggest all of the limitations of claim 64, then claim 64 is non-obvious with respect to Macken and Kato et al., and therefore in a condition for allowance. Applicant respectfully requests reconsideration and allowance of claim 64.

Double Patenting

Claims 1-3, 5, 9-12, 14-20, 25-31, 47-49, 52-55 and 56 stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 5-8, 10-12 and 17 of U.S. Patent No. 5,673,146. Applicant submits herewith a terminal disclaimer under 37 C.F.R. §1.321 disclaiming that portion of the term of a patent granted on the instant application that would extend beyond the term of U.S. Patent No. 5,673,146. A check in the amount of \$55.00 is enclosed in payment of the associated Statutory Disclaimer fee pursuant to 37 C.F.R. §1.20(d).

Extension of Time and Payment of Fees Under 1.17(a)(2)

Applicant hereby petitions for a One-Month Extension of Time, pursuant to 37 C.F.R. §1.136, extending the deadline for response up to and including January 15, 2000. A check in the amount of \$55.00 is enclosed in payment of the associated One-Month Extension of Time fee pursuant to 37 C.F.R. §1.17(a)(2).

Summary and Conclusions

A new Declaration is provided herewith. The specification has been amended to correct errors noted by the Examiner and to accommodate the original drawings. Claims 3, 6 and 53 have been amended to provide for proper antecedent basis. Claims 31 and 32 have been amended to add limitations thereto. Claims 42 and 43 have been amended to improve

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clarity. Claims 44 and 45 have been cancelled without prejudice. Claim 47 has been amended for increased breadth. Claims 54-56 have been amended to change the dependency thereof. The rejections of all claims in their present form have been traversed. A Terminal Disclaimer is submitted herewith to overcome obviousness-type double patenting rejections. Applicant has petitioned for a One-Month Extension of Time. Applicant submits that no new matter has been added by this Amendment.

Applicant respectfully requests reconsideration of the instant application as amended herein in view of the arguments hereinabove. Applicant respectfully submits that the instant application is now in the proper form for Notice of Allowance.

Respectfully Submitted,



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